

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

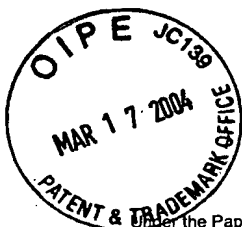
Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**



PTO/SB/21 (08-03)  
Approved for use through 08/30/2003. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE  
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/708,505	
	Filing Date	03/09/2004	
	First Named Inventor	Chun-Yao Chen	
	Art Unit		
	Examiner Name		
Total Number of Pages in This Submission	3	Attorney Docket Number	OTMP0073USA

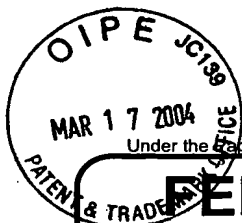
ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input checked="" type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance communication to Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please identify below):
Remarks  Response to the office action has been sent to the examiner by fax on 12/04/2003		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Winston Hsu, Reg. No.: 41,526
Signature	<i>Winston Hsu</i>
Date	3/15/2004

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.			
Typed or printed name			
Signature		Date	

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PTO/SB/17 (10-03)

Approved for use through 07/31/2006. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ ) 0.00

## Complete if Known

Application Number	10/708,505
Filing Date	03/09/2004
First Named Inventor	Chun-Yao Chen
Examiner Name	
Art Unit	
Attorney Docket No.	OTMP0073USA

## METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number: 50-0801  
Deposit Account Name: North America International Patent Office

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1)			(\$ ) 0.00

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

	Extra Claims	Fee from below	Fee Paid
Total Claims	-20** =	X	
Independent Claims	-3** =	X	
Multiple Dependent			

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 86	2201 43	Independent claims in excess of 3
1203 290	2203 145	Multiple dependent claim, if not paid
1204 86	2204 43	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ ) 0.00

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ ) 0.00

## SUBMITTED BY

(Complete if applicable)

Name (Print/Type)	Winston Hsu	Registration No. (Attorney/Agent)	41,526	Telephone	886289237350
Signature	<i>Winston Hsu</i>	Date	3/15/2004		

**WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PTO/SB/02B (11-00)  
Approved for use through 10/31/2002. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

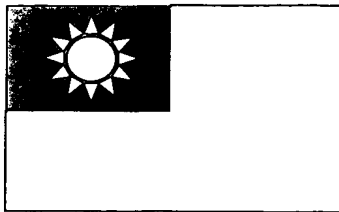
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

## DECLARATION — Supplemental Priority Data Sheet

Additional foreign applications:

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
0922042093	Taiwan R.O.C	03/12/2003	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Burden Hour Statement: This form is estimated to take 21 minutes to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



## 中華民國經濟部智慧財產局

INTELLECTUAL PROPERTY OFFICE  
MINISTRY OF ECONOMIC AFFAIRS  
REPUBLIC OF CHINA

茲證明所附文件，係本局存檔中原申請案的副本，正確無訛，  
其申請資料如下：

This is to certify that annexed is a true copy from the records of this  
office of the application as originally filed which is identified hereunder:

申請日：西元 2003 年 03 月 12 日  
Application Date

申請案號：092204093  
Application No.

申請人：中強光電股份有限公司  
Applicant(s)

局長  
Director General

蔡 練 生

發文日期：西元 2004 年 1 月 12 日  
Issue Date

發文字號：09320039440  
Serial No.

申請日期：MAR 12 2003	IPC分類
申請案號：	

(以上各欄由本局填註)

# 新型專利說明書

一、 新型名稱	中文	投影顯示裝置
	英文	Projection display device
二、 創作人 (共2人)	姓名 (中文)	1. 陳俊堯 2. 曾湧泉
	姓名 (英文)	1. Chen Chun-Yao 2. Tseng Yung Chuan
	國籍 (中英文)	1. 中華民國 TW 2. 中華民國 TW
	住居所 (中文)	1. 新竹科學工業園區新竹市力行路11號 2. 新竹科學工業園區新竹市力行路11號
	住居所 (英文)	1. No 11, Li Hsing Rd, Science-Based Industrial Park, Hsinchu, R.O.C. 2. No 11, Li Hsing Rd, Science-Based Industrial Park, Hsinchu, R.O.C.
三、 申請人 (共1人)	名稱或 姓名 (中文)	1. 中強光電股份有限公司
	名稱或 姓名 (英文)	1. Coretronic Corporation
	國籍 (中英文)	1. 中華民國
	住居所 (營業所) (中文)	1. 新竹科學工業園區新竹市力行路11號 (本地址與前向貴局申請者相同)
	住居所 (營業所) (英文)	1. No 11, Li Hsing Rd, Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C.
	代表人 (中文)	1. 張威儀
	代表人 (英文)	1. Wade Chang

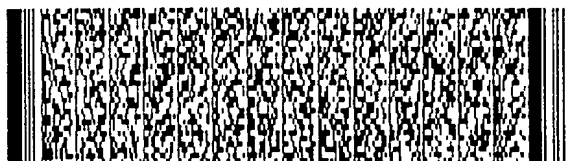


四、中文創作摘要 (創作名稱：投影顯示裝置)

一種投影顯示裝置，包括一殼體、以及設於殼體內之一燈泡、一光機模組及一燈泡散熱裝置，其中該燈泡散熱裝置包括一風扇、一凹室及一燈源罩，其中風扇係設置於一燈泡底部，該凹室則開設於一殼體上並位於該風扇下方，燈源罩係設於燈泡外側，使燈泡外側與燈源罩間形成一導流空間；藉由風扇抽吸顯示裝置下方熱負荷低之空氣，進入導流空間內冷卻燈泡，以增進投影顯示裝置之散熱效果。

陸、英文創作摘要 (創作名稱：Projection display device)

A projection display device comprises a casing, and a lamp for providing illumination lights, an optical engine connected to the lamp for projecting an image into a screen, and a cooling apparatus for the lamp. The cooling apparatus includes a fan installed on the bottom of the lamp, a recess below the fan, and a lamp shade outside the lamp. Between the lamp and lamp shade is formed a space for guiding the air flow along the surface of the lamp. Using the fan for inhaling the lower thermal load air into the



四、中文創作摘要 (創作名稱：投影顯示裝置)

陸、英文創作摘要 (創作名稱：Projection display device)

space to cool the lamp can enhance the cooling efficiency.





四、中文創作摘要 (創作名稱：投影顯示裝置)

伍、(一)、本案代表圖為：第3圖

(二)、本案代表圖之元件代表符號簡單說明：

2 0	投影顯示裝置	2 1	殼體
2 2	燈泡	2 3	光機模組
3 0	燈泡散熱裝置	3 1	風扇
3 2	凹室	3 3	燈源罩
3 4	導流空間	3 5	導流板

陸、英文創作摘要 (創作名稱：Projection display device)



一、本案已向

國家(地區)申請專利

申請日期

案號

主張專利法第一百零五條準用  
第二十四條第一項優先權

二、☐主張專利法第一百零五條準用第二十五條之一第一項優先權：

申請案號：

日期：

三、主張本案係符合專利法第九十八條第一項☐第一款但書或☐第二款但書規定之期間

日期：



## 五、創作說明 (1)

### 【 新 型 所 屬 之 技 術 領 域 】

本創作係有關投影顯示裝置，尤其係指一種可增進散熱效果之投影顯示裝置。

### 【 先 前 技 術 】

燈泡係提供投影裝置所需之光通量，而為了因應投影裝置應用於視訊簡報及家庭電影院等高亮度之場合，一般係採用高消耗功率之燈泡，但此卻造成燈泡產生大量熱能，而使得燈泡易於損壞並將影響裝置效能。

請參閱第 1 圖所示，習知應用於投影顯示裝置之燈泡散熱裝置，其包括一燈泡 1 1 A 及一設於燈泡 1 1 A 後側之風扇 1 2，藉由風扇 1 2 抽吸裝置內之空氣，使空氣流通過燈泡 1 1 A 側面，進行冷卻燈泡 1 1 A，再由一出風口（圖未示）送出空氣，達到散熱效果；一般投影顯示裝置係採用單一通道設計，空氣先冷卻較低溫下之光學元件，此將造成空氣流之密度不同而產生空氣下冷上熱現象，再利用後側設之風扇 1 2 冷卻燈泡 1 1 A，此時風扇 1 2 上部將抽吸熱空氣，下部將抽吸冷空氣，由於熱空氣本身熱負荷高，故無法有效帶走燈泡上部熱能，達到散熱。

另外，請參閱第 2 圖所示，係習知另一投影顯示裝置，其殼體 1 3 底面 1 3 1 與桌面 1 4 具有一間隙，並於殼體 1 3 底部開設通風口 1 3 2，藉由通風口 1 3 2 之設置以抽吸裝置外部之冷空氣來冷卻燈泡 1 1 B，而增進散熱效率；由於環境中之灰塵及雜質，易附著於桌



## 五、創作說明 (2)

面，直接抽吸接近桌面之外部冷空氣，必將大量之灰塵吸入裝置內，而致影響投影裝置內部之元件效能，因此，利用底部抽吸外部冷空氣之方式，尚需增設防塵結構過濾空氣，才可確保裝置效能。

### 【新 型 內 容】

本創作之一目的，係提供一種投影顯示裝置，藉由將風扇設置於燈泡底部，以抽吸熱負荷低之空氣來冷卻燈泡，而增進散熱效果。

本創作之另一目的，係提供一種投影顯示裝置，藉由於風扇下方開設一凹室，以增加進風量。

本創作之又一目的，係提供一種投影顯示裝置，直接利用裝置內部之潔淨空氣來冷卻燈泡，而不利由殼體底部開孔抽吸之外部空氣，故可避免抽吸外部空氣時造成灰塵吸入裝置之問題，及不需增設防塵結構來過濾空氣，因而可達到的防塵及簡化散熱裝置。

為達上述目的，本創作之投影顯示裝置包括一殼體、以及設於殼體內之一燈泡、一光機模組及一燈泡散熱裝置，其中該燈泡散熱裝置包括一風扇、一凹室及一燈源罩，風扇係設置於該燈泡之底部，凹室係設於該風扇下方，燈源罩係設於該燈泡外側，使該燈源罩與燈泡間形成一導流空間，該燈源罩相對於該燈泡底部及頂部設有一入風口及一出風口，風扇係位於該入風口處；藉由風扇抽吸顯示裝置下方熱負荷低之空氣，進入導流空間內冷卻燈泡，以增進投影顯示裝置之散熱效果。

### 五、創作說明 (3)

#### 【實施方式】

有關本創作為達到上述目的，所採用之技術手段及其餘功效，茲舉一較佳實施例，並配合圖式加以說明如下：

請參閱第3圖及第4圖所示，係本創作燈泡散熱裝置30應用於一投影顯示裝置20，該投影顯示裝置20包括一殼體21、設於殼體21內之一燈泡22、一光機模組23及一燈泡散熱裝置30；該殼體21之相對側面分設有一進風口211及一出風口212，並於其間形成一潔淨之空氣流；其中該燈泡22係用以供照明用光束，光機模組23係與該燈泡22結合成一體，以將該照明光束轉換成影像光束；燈泡散熱裝置30係包括一風扇31、一凹室32及一燈源罩33，該風扇31係設置於該燈泡22底部，該凹室32則開設於殼體21上並位於該風扇31下方，以增加風扇之進風量，該燈源罩33係套設於該燈泡22外側，使燈泡22外側與燈源罩33間形成一導流空間34，該燈源罩33於燈泡22之底部及頂部分別開設有一入風口331及一出風口332，該風扇31係面對入風口331而設，出風口332則設有導流板35以將導流空間34之空氣引導至由該顯示裝置20下方之空氣，進入導流空間34藉由燈泡22底部入風口331設置之風扇31來抽吸投影顯示裝置20下方之空氣，沿著燈泡22外側表面流動，以冷卻燈泡2

#### 五、創作說明 (4)

2，最後空氣由燈泡22上方之出風口332排出。由於空氣具有下冷上熱現象，因此將入風口331設於燈泡22底部（即投影顯示裝置20底部），可抽吸投影顯示裝置20中熱負荷低之冷氣，來冷卻燈泡22，故可具有較佳之散熱效果。另外，利用設置凹室32於風扇31下方，可增加風扇31之進風量，因此亦可增強散熱效果。

另外，本創作用以冷卻燈泡22之低熱負荷空氣，係利用風扇31直接抽吸裝置內底部之潔淨空氣，而係利用由殼體21底部開孔抽吸之外部空氣，所以不需增設防塵結構過濾空氣，及可避免抽吸外部空氣時造成灰塵吸入裝置之問題，因而可簡化散熱裝置及達到裝置防塵。

以上所述，僅用以方便說明本創作之較佳實施例，本創作之範圍不限於該等較佳實施例，凡依本創作所做的任何變更，於不脫離本創作之精神下，皆屬本創作申請專利範圍。



## 圖式簡單說明

### 【圖式簡要說明】

第 1 圖，係習知燈泡散熱裝置之結構示意圖。

第 2 圖，係習知投影顯示裝置之側剖面圖。

第 3 圖，係本創作投影顯示裝置之側剖面圖。

第 4 圖，係本創作燈泡散熱裝置之立體圖。

### 【圖號簡要說明】

2 0 投影顯示裝置

2 1 殼體

2 1 1 進風口

2 1 2 出風口

2 2 燈泡

2 3 光機模組

3 0 燈泡散熱裝置

3 1 風扇

3 2 凹室

3 3 燈源罩

3 3 1 入風口

3 3 2 出風口

3 4 導流空間

3 5 導流板



## 六、申請專利範圍

- 1、一種投影顯示裝置，其包括：
  - 一殼體；
  - 一光機模組，係設置於該殼體內，並包括一燈泡；
  - 以及
  - 一燈泡散熱裝置，係設於該殼體內部，且其包括一風扇及一凹室，該風扇係設於該燈泡之底部，該凹室係設於該風扇下方。
- 2、如申請專利範圍第1項所述之投影顯示裝置，其中該燈泡散熱裝置之凹室係開設於該殼體上。
- 3、如申請專利範圍第1項所述之投影顯示裝置，其中該投影顯示裝置更包括一進風口及一出風口，且其設於該殼體相對之側面。
- 4、如申請專利範圍第1項所述之投影顯示裝置，其中該燈泡散熱裝置更包括一燈源罩，係設於該燈泡外側，該燈源罩與該燈泡間形成一導流空間。
- 5、如申請專利範圍第4項所述之投影顯示裝置，該燈源罩相對於該燈泡底部及頂部設有一入風口及一出風口。
- 6、如申請專利範圍第5項所述之投影顯示裝置，其中該風扇係設於該入風口處。
- 7、如申請專利範圍第5項所述之投影顯示裝置，其中該出風口設有導流板。
- 8、一種燈泡散熱裝置，其包括：
  - 一風扇，係設置於該燈泡之底部；以及



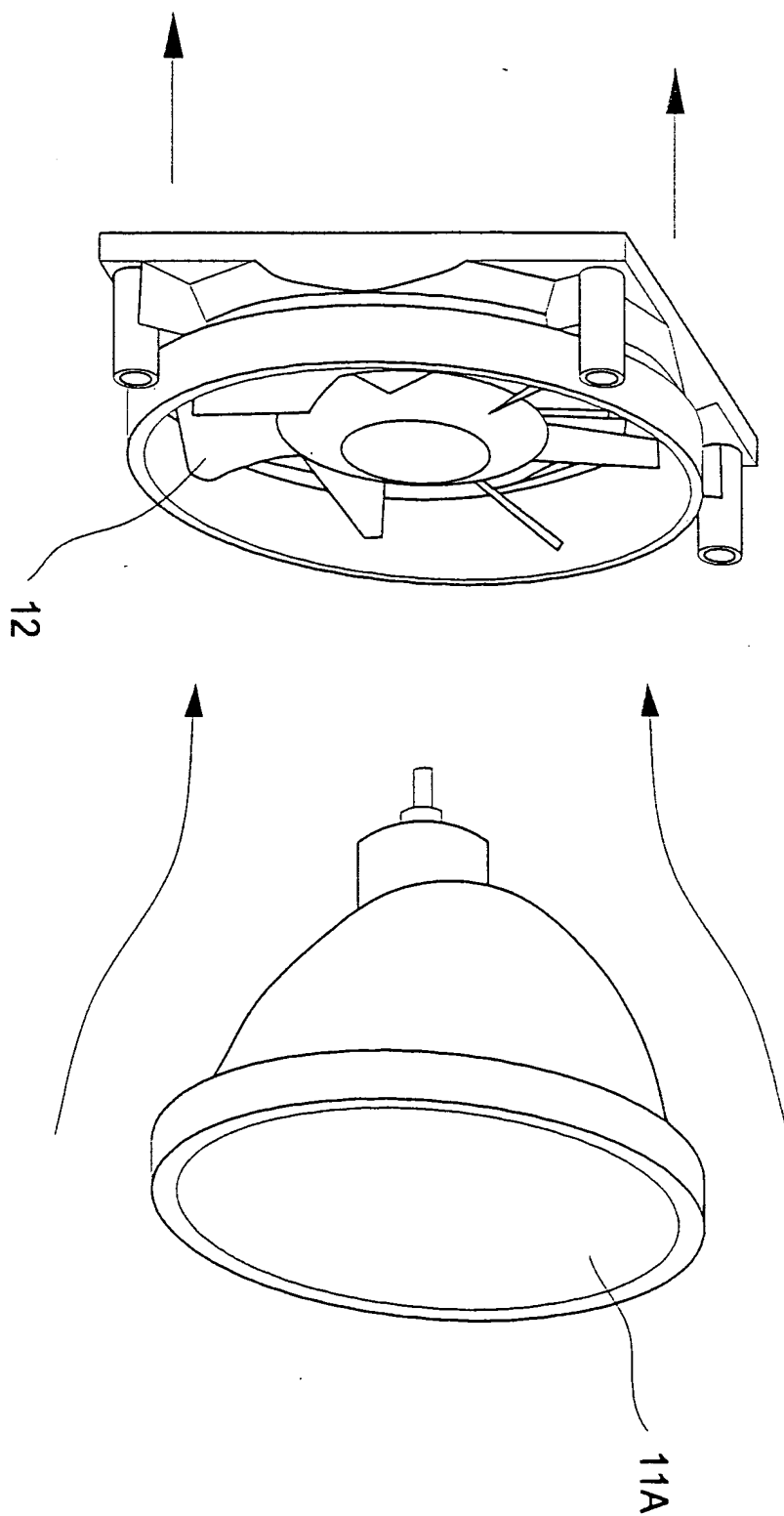


六、申請專利範圍

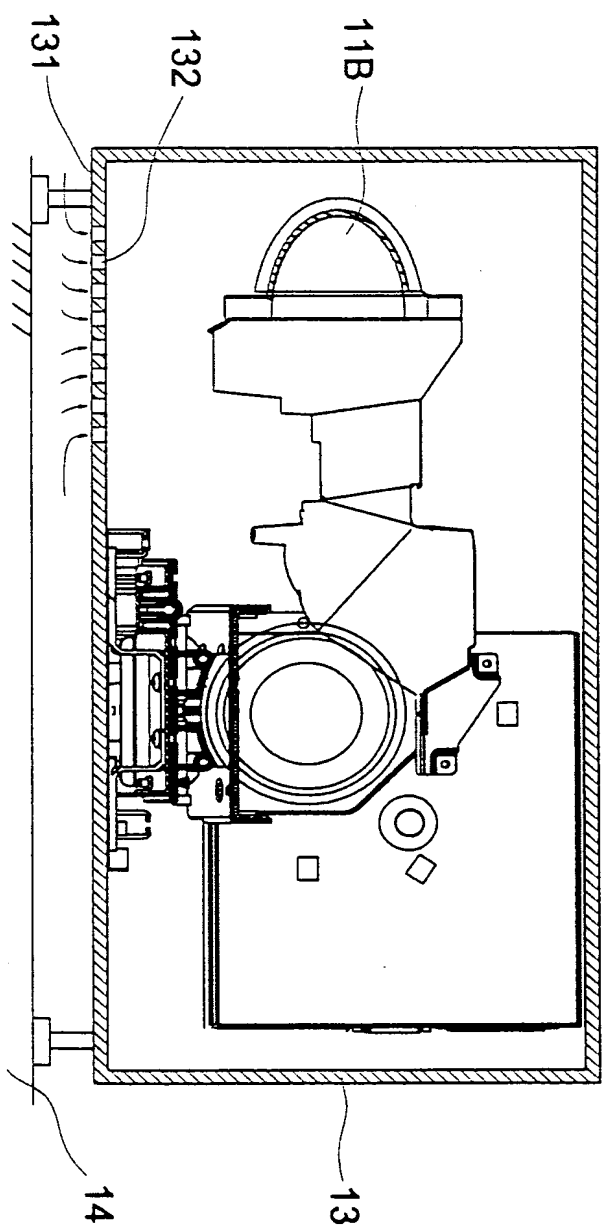
一凹室，係設於該風扇下方。

- 9、如申請專利範圍第8項所述之燈泡散熱裝置，其中更包括一燈源罩，係設於該燈泡外側，該燈源罩與該燈泡間形成一導流空間。
- 10、如申請專利範圍第9項所述之燈泡散熱裝置，該燈源罩相對於該燈泡底部及頂部設有一入風口及一出風口。
- 11、如申請專利範圍第10項所述之燈泡散熱裝置，其中該風扇係設於該入風口處。
- 12、如申請專利範圍第10項所述之燈泡散熱裝置，其中該出風口設有導流板。

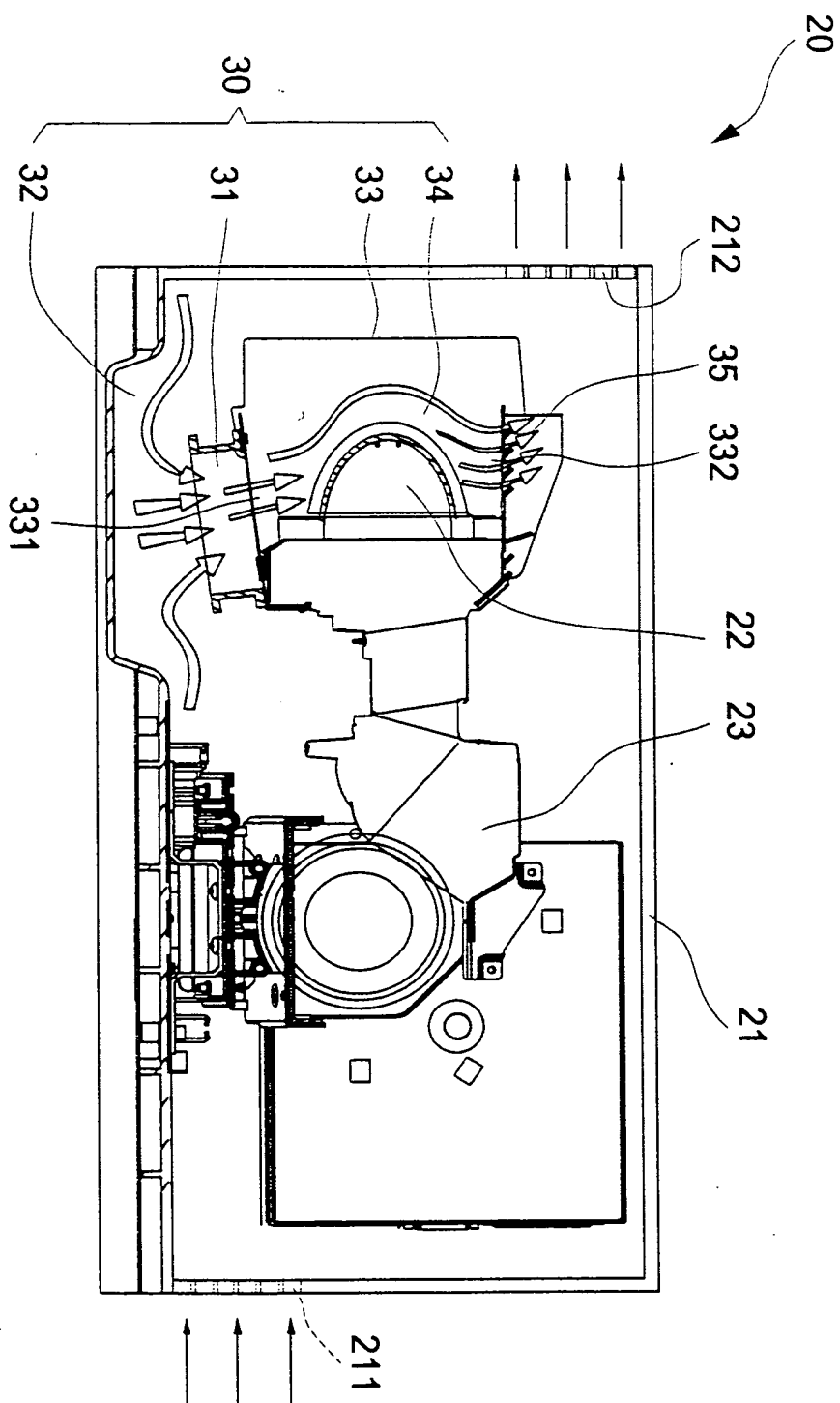




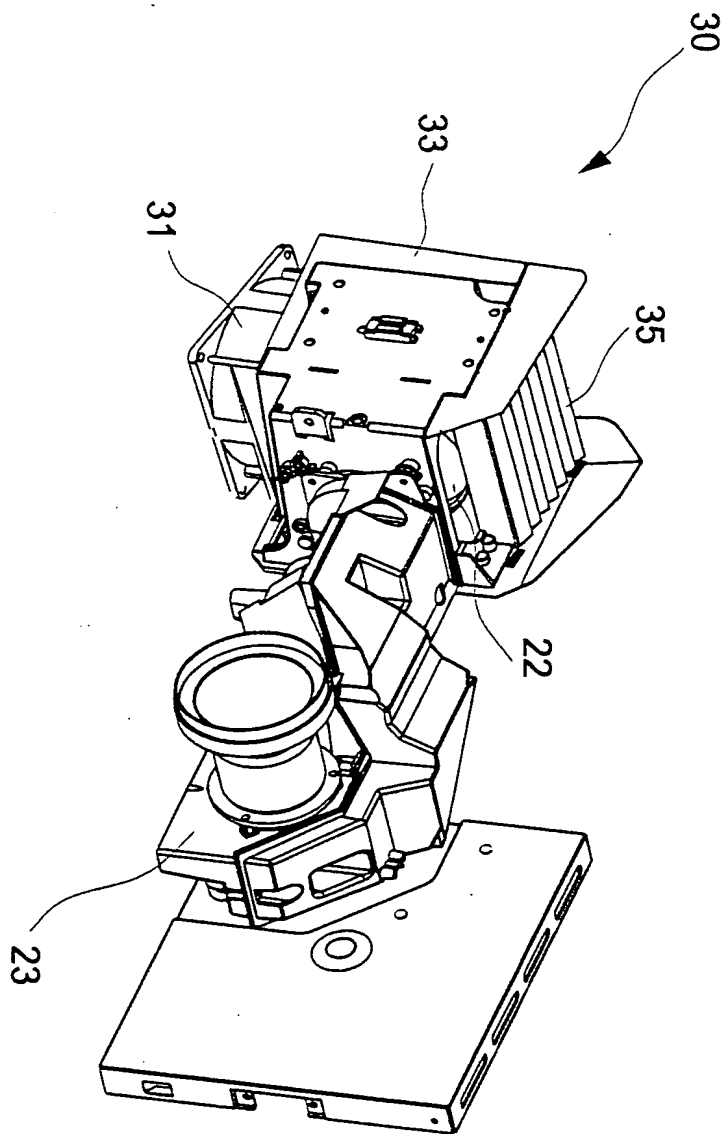
第 1 圖



第 2 圖



第 3 圖

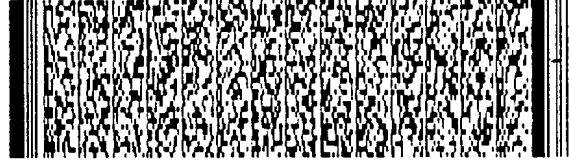


第 4 圖

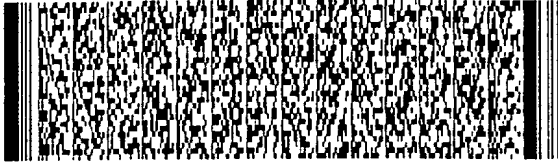
第 1/12 頁



第 2/12 頁



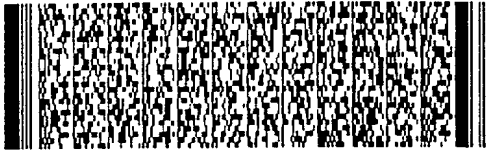
第 2/12 頁



第 3/12 頁



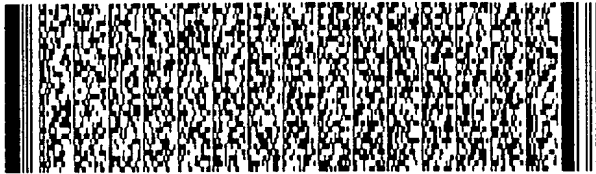
第 4/12 頁



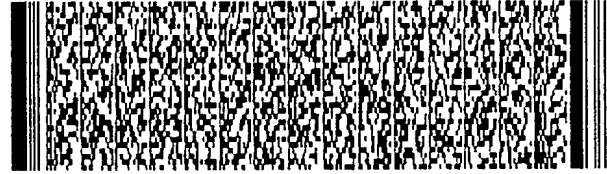
第 5/12 頁



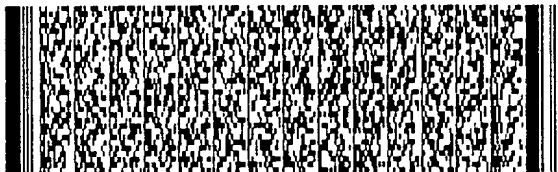
第 6/12 頁



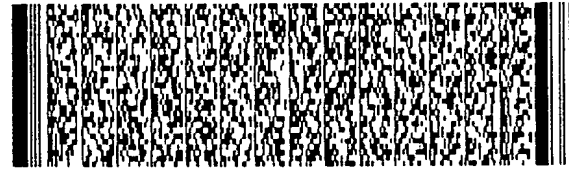
第 6/12 頁



第 7/12 頁



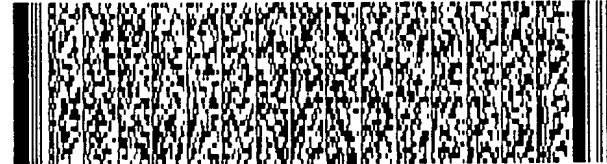
第 7/12 頁



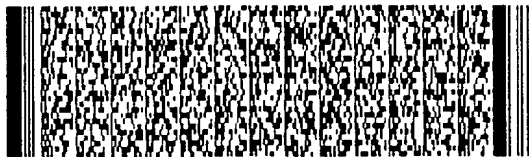
第 8/12 頁



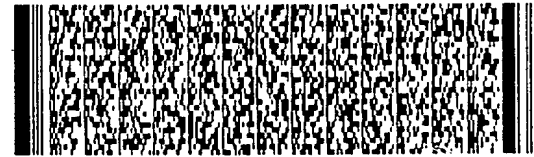
第 8/12 頁



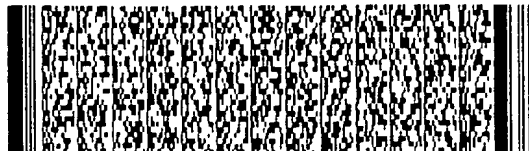
第 9/12 頁



第 9/12 頁



第 10/12 頁



第 11/12 頁

